Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

March, 1949

AIC-244

32
Ag 8'2
P2

United States Department of Agriculture
Agricultural Research Administration
Bureau of Agricultural and Industrial Chemistry
WESTERN REGIONAL RESEARCH LABORATORY
800 Buchanan St.
Albany 6, California

List of Patents

The patents listed below are available for licensing on a royalty-free basis. Those marked "Dedicated" have been dedicated to the people of the United States by the inventors and require no licenses. The others have been assigned to the United States Government as represented by the Secretary of Agriculture and are available for licensing on a royalty-free, non-exclusive, revocable, and non-transferable basis. Applications for licensing should be directed to the U. S. Department of Agriculture, Bureau of Agricultural and Industrial Chemistry, Washington 25, D. C. Further information on any of these patents can be obtained at the Western Regional Research Laboratory.

Copies of the patents can be obtained only from the Commissioner of Patents, Washington, D. C. at 25 cents each.

- - - - - - - - - -

Food Processing

Patent 2,403,923 to G. T. Hemmeter. Device for Peeling Agricultural Products. Patented July 16, 1946. Device consists essentially of a furnace through which agricultural products, potatoes for example, are conveyed. A mechanism is provided to tumble the products in their passage through the furnace whereby the entire surface is exposed to radiant heat to char skin. Charred skin is readily removed by water sprays.

Patent 2,445,299 to M. M. Boggs and H. L. Fevold. Dried Egg Powder. Patented July 13, 1948. Patent describes process of preparing dried egg powder of superior shelf life and aeration properties. Process involves adding an acid to the egg emulsion, drying the acidified emulsion, then adding dry sodium bicarbonate to the dry, acidified egg emulsion. When the resulting powder is mixed with water for reconstitution and ultimate use, the bicarbonate neutralizes the acid added previous to drying.

Patent 2,445,881 to G. T. Hemmeter. Apparatus for Peeling Onions, Including a Conical Jet of Gas. Patented July 27, 1948. Patent describes apparatus for peeling onions which involves subjecting onions to a conical, diverging, hollow jet of gas whereby the gas impinging on the surface of the onion first loosens the skin and then tears it away from the onion.

Patent 2,459,431 to G. Johnson and M. M. Boggs. Cold Processed Fruit Spread. Patented Jan. 18, 1949. Patent describes preparation of a gelled fruit product useful as a dessert or as a spread which retains the fresh flavor of the fruit. Retention of fresh fruit flavor is obtained by avoiding the elevated temperatures which are customary in production of ordinary jellies.

Pectin

Patent 2,375,376 to W. D. Maclay and J. P. Nielsen. Method of Extracting Pectinous Materials. Patented May 8, 1945. Improved method of extracting pectin from plant materials such as citrus peel, sugar beets, etc. which involves adding an alkali metaphosphate or alkali polyphosphate to the extracting solution. Process allows complete extraction in a short period of time.

Patent 2,386,323 to H. Lineweaver and R. M. McCready. Method for Accelerating the Alkaline De-esterification of Pectin. Patented Oct. 9, 1945. Improvement in the alkaline de-esterification of pectin to produce pectinic acids wherein a salt, such as sodium chloride, is added to the reaction mixture. The reaction is accelerated by addition of the salt. Invention permits use of mild alkali whereby degradation of pectin is avoided.

Patent 2,444,266 to H. S. Owens and W. D. Maclay. Pectic Materials and Method of Preparing Same. Patented June 29, 1948. This patent claims method of preparing low-methoxyl pectinic acids by partial de-esterification of pectin in citrus peel. The citrus peel is dispersed in water and subjected to controlled conditions of alkalinity and temperature whereby the enzymes present in the peel cause partial de-esterification of the pectin naturally occurring in the peel.

Patent 2,448,818 to R. M. McCready, H. S. Owens, and W. D. Maclay. Process of Isolating Low-Methoxyl Pectinic Acids. Patented Sept. 7, 1948. Method of isolating low-methoxyl pectinic acids from aqueous solutions thereof by adding an acid to the solution to a pH of 2 or less. The pectinic acids precipitate out and are separated, washed, and dried.

Patent 2,457,577 to W. D. Maclay, A. D. Shepherd, R. M. McCready, and R. P. Graham. Production of Low-Methoxyl Pectinic Acids from Aluminum-Pectin Compositions. Patented Dec. 28, 1948. Low-methoxyl pectins are produced by subjecting an aluminum-pectin composition to partial deesterification by means of an enzyme. The products are useful for preparing low-sugar fruit gels and milk puddings and as coating materials.

Proteins, Plastics, Fibers, Etc.

Patent 2,344,267 to H. C. Reitz. Proteinous Compositions and Their Process of Preparation. Patented March 14, 1944. Relates to the preparation of sulphated proteins, particularly sulphated gluten. Process involves reacting the protein with chlorosulphonic acid. Products have gelling properties and are valuable as substitutes for the natural gums.

Patent 2,399,161 to G. H. Brother and C. H. Binkley. Process for Producing Glues and Adhesives from Keratin Protein Materials. Patented April 30, 1946. Adhesive made by reducing a keratin material with an alkaline sulphide solution, dispersing the product in caustic soda and drying it. Process enables waste keratin materials such as feathers, animal hair, etc. to be converted into useful products.

Patent 2,425,550 to H. P. Lundgren. Process of Making Oriented Regenerated Protein Products. Patented Aug. 12, 1947. Process of preparing films or fibers from protein materials. Waste keratin materials such as feathers, animal hair, etc. may be used as the raw material. The process essentially involves dispersing the protein in a detergent solution, precipitating a protein-detergent complex, forming a film or fiber therefrom by extrusion and then extracting the film or fiber with a solvent to remove the detergent.

Patent 2,434,715 to H. S. Olcott and J. C. Lewis. Glutamic Acid-Free Protein Hydrolysate and the Production Thereof. Patented Jan. 20, 1948. Glutamic acid separated from protein hydrolysates by heating at particular pH to convert glutamic acid into its lactam followed by extraction of the lactam. The glutamic acid-free hydrolysate is useful as culture medium for microorganisms, particularly for bioassay procedures.

Patent 2,439,903 to R. A. O'Connell, Jr. Thread Advancing, Storage and Stretching Reel. Patented April 20, 1948. Device consists essentially of a reel provided with a series of endless belts arranged longitudinally. Thread is supported by belts and caused to advance by moving belts longitudinally. Belts are also adjustable toward or away from shaft so that thread can be stretched or contracted while in motion. Device is useful in preparation of artificial fibers of any type.

Patent 2,445,028 to C. B. Jones and D. K. Mecham. Method of Dispersing Keratin Proteins with Amides and the Composition Resulting Therefrom. Patented July 13, 1948. Relates to solubilization of keratin materials such as feathers, hoof, horn, etc. whereby to produce products which can be used for preparation of artificial films, fibers, plastics, and the like. Process involves essentially heating the keratin in an aqueous solution containing an amide, such as urea, and a reducing agent, such as sodium bisulphite.

Patent 2,445,029 to C. B. Jones and D. K. Mecham. Method of Dispersing Keratin Protein with Ammonium Thiocyanate and the Composition Resulting Therefrom. Patented July 13, 1948. Relates to solubilization of keratin materials such as feathers, horn, hoof, etc. whereby to obtain products which can be used for preparation of artificial films, fibers, plastics, and the like. Process involves essentially heating the keratin in an aqueous solution containing ammonium thiocyanate and a reducing agent such as sodium bisulphite.

Patent 2,447,860 to C. B. Jones and D. K. Mecham. Method of Dispersing Keratin Proteins and the Composition Resulting Therefrom. Patented Aug. 24, 1948. This patent relates to solubilization of keratin materials such as feathers, horn, hoof, etc. whereby to obtain products which can be used for preparation of artificial films, fibers, plastics, and the like. Process involves heating the keratin in an aqueous solution containing guanidine and a reducing agent, such as sodium bisulphite.

Patent 2,454,915 to H. L. Fevold and A. L. Dimick. Isolation of Lipovitellenin from Egg Yolk. Patented Nov. 30, 1948. Lipovitellenin, a new protein of high phospholipid content is isolated from egg yolks by a process involving centrifugation and ether extraction of the yolks.

Patent 2,459,708 to H. P. Lundgren. Dispersions of Proteins in Aqueous Detergents. Patented Jan. 18, 1949. Patent claims compositions containing proteinous material, chicken feathers for instance, dispersed in an aqueous solution of a synthetic detergent. These compositions are useful as spinning solutions from which to prepare synthetic protein fibers.

Patent 2,460,980 to H. L. Fraenkel-Conrat and H. S. Olcott. Process for the Preparation of Isocyanate Derivatives of Proteins. Patented Feb. 8, 1949. Proteins are reacted with organic isocyanates to prepare modified protein plastics. These plastics can be molded to form useful articles such as buttons, fountain pen barrels, electrical equipment, etc.

Antibiotic Substances

Patent 2,438,209 to H. L. Fraenkel-Conrat, H. Hunfeld, J. C. Lewis, K. P. Dimick, and H. S. Olcott. Reaction Product of Gramicidin and Formaldehyde and Method of Production. Patented March 23, 1948. Gramicidin, an antibiotic, is reacted with formaldehyde to produce a derivative of decreased hemolytic and toxic properties.

Patent 2,442,452 to G. Alderton and H. L. Fevold. Method of Isolating Lysozyme from its Naturally Occurring Mixtures with Other Biologic Materials. Patented June 1, 1948. Patent describes process of isolating lysozyme, a proteinous substance having bacteriolytic properties, from natural sources thereof such as egg white. The process involves treatment of the egg white with an adsorbent material such as bentonite followed by elutation of adsorbed lysozyme with an organic base, particularly pyridine.

Patent 2,453,534 to H. S. Olcott and H. L. Fraenkel-Conrat. Process for Isolation of Gramicidin. Patented Nov. 9, 1948. Patent relates to the isolation of gramicidin, an antibiotic, from tyrothricin in which the gramicidin exists in admixture with tyrocidine. The isolation process involves treatment of the tyrothricin with phosphotungstic acid to precipitate the tyrocidine and recovery of the gramicidin from the remaining liquid.

Patent 2,459,139 to K. P. Dimick, G. Alderton, J. C. Lewis, H. D. Lightbody, and H. L. Fevold. Process for Extraction and Purification of Subtilin. Patented Jan. 18, 1949. Subtilin, an antibiotic active against the organisms which cause anthrax, pneumonia, tuberculosis, bovine mastitis, etc., is isolated from cultures of Bacillus subtilis by extraction with alcohol.

Miscellaneous

Patent 2,430,897 to G. R. Van Atta and D. F. Houston. Process for Vapor-Phase Dehydrochlorination. Patented Nov. 18, 1947. Invention involves conversion of saturated fatty acids into unsaturated fatty acids, the latter being useful to prepare drying oils. Saturated fatty acid is first chlorinated, then subjected to dehydrochlorination in the vapor phase whereby unsaturated product is formed.

Patent 2,448,602 to E. B. Kester and H. M. Preusser. Glycidyl Esters. Patented Sept. 7, 1948. Process of preparing glycidyl esters by reacting a salt of a fatty acid, for example lauric, stearic, oleic, etc., with an excess of epichlorhydrin in the presence of an alkaline material. Products are useful as plasticizers for resins, particularly polyvinyl butyral resins.

Patent 2,457,560 to E. F. Jansen and H. Lineweaver. Pectic Enzyme Preparation Fortified with Pectinesterase. Patented Dec. 28, 1948. Pectic enzyme preparations such as those used in clarification of fruit juices and wines, are fortified by adding pectinesterase. The fortified enzyme preparation has greatly enhanced clarifying properties.

Patent 2,458,171 to E. F. Jansen, R. Jang, and L. R. MacDonnell. Isolation of Acetylesterase from Citrus Waste. Patented Jan. 4, 1949. Patent discloses technique for isolating acetylesterase, an enzyme which catalyzes hydrolysis of acetic acid esters, from citrus waste, for example orange peel.

Patents of the Enzyme Research Division (located at Western Regional Research Laboratory)

Patent 2,011,465 to A. K. Balls and W. S. Hale. Process for Inhibiting the Discoloration of Fruits and Vegetables. Patented Aug. 13, 1935. The discoloration of cut fruits or vegetables is inhibited by applying a sulphydryl compound to cut surface of the product. Suitable sulphydryl compounds are cysteine, glutathione, etc. (Dedicated.)

Patent 2,054,213 to A. K. Balls and T. L. Swenson. Process for the Alteration of Egg White. Patented Sept. 15, 1936. Process of thinning thick egg white so that it can be spray dried. Process involves treating the thick egg white with the enzyme enterokinase. (Dedicated.)

Patent 2,062,387 to A. K. Balls and T. L. Swenson. Process for the Alteration of Egg White. Patented Dec. 1, 1936. Process of thinning thick egg white so that it can be spray-dried. This is accomplished by treating the thick egg white with benzoyl-glycine. (Dedicated.)

Patent 2,073,411 to A. K. Balls and T. L. Swenson. Process of Producing Thin Egg White. Patented March 9, 1937. Fresh egg white is treated with a proteolytic enzyme, such as trypsin, whereby the thick egg white present in the fresh egg white is thinned. Thus the product is rendered suitable for spray drying. (Dedicated.)

Patent 2,103,443 to A. K. Balls and W. S. Hale. Method for the Softening of Dough. Patented Dec. 28, 1937. Method of softening baker's dough by incorporating glutathione therein. (Dedicated.)

Patent 2,110,613 to T. L. Swenson. Process for Reducing Foam of Fermented Egg White to Liquid Albumin. Patented March 8, 1938. The foam, which is produced during the treatment of egg white with a proteolytic enzyme, is converted into liquid albumin by treating it with pepsin, papain, or bromelin. (Dedicated.)

Patent 2,257,218 to A. K. Balls, H. Lineweaver, and S. Schwimmer. Process for the Preparation of Papain. Patented Sept. 30, 1941. Process involves extracting the latex from papayas, adding salt and then drying the resulting mixture to a paste. The product contains more of the original activity of the latex and retains it longer than the usual preparations.

Patent 2,274,120 to A. K. Balls, A. G. Keverkian, and F. E. Arana. Process for Curing Vanilla Beans. Patented Feb. 24, 1942. Improved process for curing vanilla beans wherein the beans are frozen then thawed. (Dedicated.)

Patent 2,313,504 to A. K. Balls and W. S. Hale. Sulphydryl Compounds Obtained from Flour. Patented March 9, 1943. Process involves extraction of a flour, such as wheat, lima bean, cottonseed, or peanut flours, with organic solvents to separate sulphydryl compounds. These compounds may be used as oxidizing or reducing agents, depending on the state in which they exist, in chemical operations.

Patent 2,313,875 to E. F. Jansen and A. K. Balls. Proteolytic Enzyme Process. Patented March 16, 1943. Isolation of chymopapain from papaya fruit. Chymopapain is an enzyme which is useful for tenderizing meat. (Dedicated.)

Patent 2,366,952 to A. K. Balls, W. S. Hale, and T. H. Harris. Proteinous Material. Patented Jan. 9, 1945. Sulphydryl compounds are isolated from cereal grains by an extraction process, then subjected to hydrolysis and purification procedures. The product is highly toxic to certain bacteria and yeasts and is thus useful as a germicide.

Patent 2,381,421 to A. K. Balls and W. S. Hale. Method of Treating Cereal Grains. Patented Aug. 7, 1945. Process of storing grain which involves contacting the grain in bulk storage with an atmosphere containing a low concentration of ethylene gas (about 1 part ethylene per 10,000 to 100,000 parts of air). By such procedure the tendency of the grain to undergo spontaneous heating is prevented.

Patent 2,434,874 to I. W. Tucker and A. K. Balls. Separation of Starch and Protein in Wheat Grain Products and Extraction of Diastase Therefrom. Patented Jan. 20, 1948. Invention relates to isolation of starch, gluten, and diastase from cereal products such as wheat flour. Thus wheat flour is contacted with an aqueous solution of a sulphite salt. Air is then beaten into the mixture causing the gluten to rise to the top of the mixture as a scum. The starch particles settle to the bottom while the diastase remains dissolved in the liquid phase.

Patent 2,436,699 to W. G. Rose. Nitrogenous Diacyl-Glycerophosphates. Patented Feb. 24, 1948. Patent describes methods for preparing aminoethyl esters of diacyl-glycerophospheric acids by a process involving reaction of a diacyl-glycerophosphoryl chloride with carbobenzoxyaminoethanol. The products are useful as emulsifying, water-binding, and dispersing agents.

Patent 2,447,715 to W. G. Rose. Esters of Di-Acyl Glycerophosphates. Patented Aug. 24, 1948. Patent describes method of preparing aminoethyl esters of diacyl glycerophospheric acids by a process involving reaction of a diacyl glycerophosphoryl chloride with hydroxyethyl phthalimide. The products are useful as emulsifying, water-binding, and dispersing agents.

Patent 2,457,754 to I. W. Tucker and A. K. Balls. Process of Extracting Diastase. Patented Dec. 28, 1948. The enzyme, diastase, is isolated from wheat products by extraction with aqueous sulphite solutions. The diastase is useful in fermentation processes, for example to produce alcohol from cereal grains.

Patents of the Pharmacology Laboratory (located at Western Regional Research Laboratory)

Patent 2,085,794 to F. DeEds, J. O. Thomas, and C. W. Eddy. Urinary Antiseptic. Patented July 6, 1937. Patent covers use of phenothiazine as a urinary antiseptic.

Patent 2,162,686 to F. DeEds, C. W. Eddy, and J. O. Thomas. Methods for the Preparation of Thionol. Patented June 13, 1939. Patent describes method for preparing thionol, a urinary antiseptic, which involves oxidation of phenothiazine with hydrogen peroxide.

Patents of the U. S. Natural Rubber Research Station, Salinas, Calif.

Patent 2,434,412 to E. P. Jones. Recovering Rubber from Guayule Shrub. Patented Jan. 13, 1945. Improvement in procedure for separating rubber from guayule shrub which involves milling the shrub in its freshly harvested state.

Patent 2,459,369 to Howard Tint and C. W. Murray. Method of Extracting Rubber from Plants. Patented Jan. 18, 1949. Guayule shrub is extracted with an organic solvent to remove resins and the treated shrub then milled to separate the rubber. Removal of resins increases quality of rubber obtained.

LIBRARY
CURRENT SERIAL RECORD
SEP 2 1940
U. S. DEPARTMENT OF AGRICULTURE